

ABSTRACT OF THE DISCLOSURE

The present invention provides a method and apparatus for producing nitrogen trifluoride. The method comprises contacting a fluorine-containing feed stream with liquid ammonium acid fluoride in a reaction zone for time and under conditions sufficient to produce nitrogen trifluoride. During the contacting step, the effective
5 melt acidity value of the liquid ammonium acid fluoride is decreased and a reaction product stream is removed. In one embodiment, a gaseous mixture of elemental fluorine and hydrogen fluoride is contacted with a bulk liquid ammonium acid fluoride, such that the initial effective melt acidity value is greater than the melt acidity value of the bulk liquid ammonium acid fluoride in the reaction zone.